

Modal Auxiliaries in Infinitive Clauses in English*

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¹This is a revision of my earlier paper, Langendoen (1968).

It is a well-known fact of English grammar that a modal auxiliary cannot occur in an infinitive clause:

(1) *John hopes to M find enjoyment in his new job.

(2) *John seems to M find enjoyment in his new job.

where M is any of the modal auxiliaries can, could, may, might, must, ought to, shall, should, will, would. If we follow traditional grammar and Ross (1967a) in assuming that the modals are themselves verbs which occur with infinitive clause complements, then the fact that two modals cannot occur together is a consequence of the fact that modals are excluded from infinitive clauses:

(3) *John M M go.

The problem concerning us here is the description of the mechanisms in English grammar which are necessary to exclude modals from infinitive clauses.

One of these mechanisms is the transformational rule (or rules) which form infinitive clauses out of the finite clauses which underlie them; such a rule (or rules) could be formulated so as to delete any modal verbs occurring in those clauses. Thus in Lees (1960, p. 108), we find the suggestion that sentences like:

(4) He knows where to go.

should be obtained from more basic structures like:

(5) He knows where he should go.

by a transformational rule. Later, Rosenbaum (1967, p. 31) speculated about the possibility of obtaining:

(6) I expect John to go.

from the structure which also underlies:

(7) I expect that John will go.

Rosenbaum, however, did not commit himself to this analysis because he noticed that not all infinitive clause complements can be interpreted as finite clauses containing modals. Thus, while (6) and (7) are stylistic variants,² we observe that the

²The term "stylistic variants" means just what the name implies: sentences which do not differ in meaning but only in surface syntactic form.

following sentence has no stylistic variant in which a modal appears in a finite clause corresponding to its infinitive clause:

(8) John seems to find enjoyment in his new job.

Instead, we find that any such stylistic variant contains no modal at all:

(9) It seems that John finds enjoyment in his new job.

The conclusion that I think it is proper to draw is that the transformational rule which forms infinitive clauses out of finite clause complements deletes those modal auxiliaries in finite clauses whose presence is governed by the higher predicate. Thus, the presence of will or would in the object complement of expect is governed by that verb, and the rule which converts that complement into an infinitive clause deletes that auxiliary. On the other hand, seem does not govern the occurrence of any particular modal in its subject complement, and so no particular one can be deleted when that complement is infinitivized.³

³In other words, the deletion of the modal is strictly "recoverable."

But then, how are we to account for the exclusion of modals from those infinitive clauses in which modal deletion is not part of the rule of infinitivization? It cannot be handled as a deep structure constraint since modals can freely occur in the more basic finite clause:

(10) It seems that John might find enjoyment in
his new job.

(11) It seems that John can't find enjoyment in
his new job.

etc. One possibility that suggests itself is that the rule of infinitive formation is to be considered inapplicable to the structures underlying (10)-(11); in other words if the rule is not permitted to delete the modal that occurs in a finite clause, then the presence of one blocks the applicability of the rule. This "brute force" solution would work, provided there were no cases of predicates which require infinitivization of their complements, but which do not govern the occurrence of particular modals in those complements. It is, of course, impossible by mere inspection to tell whether any such predicate exists, since if infinitivization is obligatory, one cannot test for the possibility of different modals in finite clause complements (all such sentences would automatically be ungrammatical). However, if one reflects carefully on the meaning of such sentences as:

(12) John tends to antagonize his teachers.

(13) John will destroy your sand-castle.

one concludes that no particular modal has been deleted in the complements of the predicates tend and will. But there is no reason on semantic grounds to exclude modals from those complements. To see this, one need only insert non-modal synonyms for particular modals in (12) and (13), and observe that the results are both sensible and grammatical:

(14) John tends to be able to antagonize his teachers.

(15) John will be permitted to destroy your sandcastle.

If these observations are correct, then we are faced with the following dilemma. A sentence such as:

(16) *John tends that he can antagonize his teacher.
looks as if it should be ruled out because infinitivization is obligatory with complements of the verb tend, but the sentence:

(17) *John tends to can antagonize his teachers.
looks as if it should be excluded because infinitivization is inapplicable when the finite clause contains a non-deletable modal.

One way to resolve this dilemma is to permit infinitivization to apply to the structure underlying (16), thus generating (17), and to hold that (17) is rejected as ungrammatical because it violates an output condition on English sentences to the effect that a modal cannot occur in an infinitive clause.⁴ It

⁴On the notion "output condition", or "surface structure constraint", as it is sometimes called, see Ross (1967b), Perlmutter (1968), Lakoff (1968).

turns out, fortunately, that there is some independent evidence to support this conclusion.

Consider once again example (11), which is repeated here for convenience:

(11) It seems that John can't find enjoyment in his new job.

This sentence, it turns out, does have a stylistic variant to which infinitivization has applied, namely:

(18) John can't seem to find enjoyment in his new job.

In general, when the subject complement of the verb seem (and no other!) is a finite clause containing a negative and the modal can or could, then both the negative and the modal can be raised to the main clause.⁵ I propose that this raising

⁵See also Quirk (1965, p. 217), where the syntactic oddity of an example like (18) is pointed out, but not elaborated upon.

be handled by a transformation which applies after infinitivization has been applied, rather than by the infinitivization rule itself, although my reason for suggesting this is not particularly strong, namely that can/could raising seems to be acting as a "rider" on a negative raising transformation which also can apply independently of the modal. Thus we obtain the following as stylistic variants:⁶

⁶Negatives, however, can be raised out of finite subject complements; compare:

- (i) It seems that John doesn't find enjoyment in his new job.
 - (ii) It doesn't seem that John finds enjoyment in his new job.
- but not can/could:
- (iii) *It can't seem that John finds enjoyment in his new job.
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(19) John seems not to be discouraged.

(20) John doesn't seem to be discouraged.

There is, however, some difficulty in viewing can/could raising as necessarily involving the raising of the negative. Consider the sentence:

- (21) John can seem to tell if people are lying to him.

The verb tell is only used in the sense "predict" when preceded

by can or could, but notice that it is this sense which is conveyed in (21). Therefore we must conclude that the can/could of can/could tell can be raised even if it is not negated. Also notice that if the negative is incorporated into the subject, can/could raising is permitted:

- (22) No one could seem to figure out what to do next.

but not if it is otherwise incorporated:

- (23) John couldn't seem to find anything.
(24) *John could seem to find nothing.

Although the problem of stating the exact form of the can/could raising transformation is considerable, its existence provides additional support for the view that English has an output condition which excludes sentences containing a modal in an infinitive clause. The reason is that in order for the rule to apply, the infinitivization transformation must be allowed to apply first, creating an infinitive containing a modal. If that modal happens to be can or could, and there is also a negative present (or if other conditions hold--see foregoing discussion), then the rule applies and a grammatical sentence ultimately ensues. If another modal is present, or if can or could are not accompanied by a negative, then the resulting sentence is ruled ungrammatical by the proposed output condition.

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